

FEB 21 2005

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RE-ISSUE PROCEEDING  
For U.S. Patent No. 5,906,750

Serial No. 09/866,145

Filed May 25, 2001

Title: Method for Dewatering Sludge

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EXAMINER: Chester Barry  
Group Art Unit 1724  
Patent Owner's Docket  
CV - 002 CIP RI

## DECLARATION OF DAVID BRESLIN

My name is David Breslin. I am of sound mind, capable of making this Declaration and have personal knowledge of the facts stated herein.

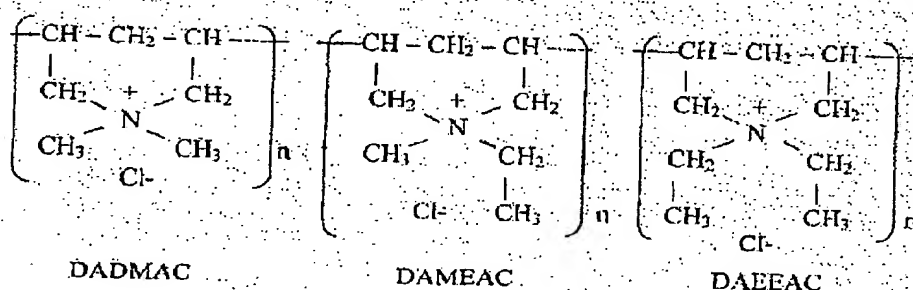
1. I perform as a marketing representative in the field of environmental chemicals.
2. I am at least one of ordinary skill in the art of dewatering biological sludge and have experience in this field since the 1980's.
3. I am aware of no industry publication, U.S. Patent, teaching or industry use prior to Richard A. Haase in the application of a metal salt and/or a polyquaternary amine in combination with a cationic and/or anionic polyacrylamide to dewater thermophilic bio-solids. Quite the contrary, since very high molecular weight cationic polyacrylamides by themselves have been known to significantly outperform a cationic polyacrylamide augmented with a metal salt and/or a polyquaternary amine, the teachings of Richard A. Haase to use a metal salt and/or a polyquaternary amine in combination with a cationic and/or anionic polyacrylamide to dewater thermophilic bio-solids was novel and against industry teachings in 1996. More specifically, metal salts were known to reduce the economics of bio-solids dewatering with very high molecular weight polyamines, cationic polyacrylamides. Therefore, the use of a very high molecular weight polyamine, such as a cationic polyacrylamide with a metal salt to dewater thermophilic bio-solids would not have been obvious or suggested to one of ordinary skill in the art; and, in my opinion the use of a very high

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molecular weight polyamine, such as a cationic polyacrylamide with a metal salt to dewater thermophilic bio-solids would not have been obvious or suggested to one of expert skill in the art.

4. I have personal knowledge of industry capabilities and knowledge relating to the manufacture of variants of DADMAC and variants of Epi-DMA. Within this industry, there are easily manufactured equivalents which are known variants or variations to these chemistries.
5. DADMAC is and has been commonly manufactured by the reaction of allyl chloride with a dimethyl (methyl-methyl) amine. Variations on this theme have been known by those of ordinary skill since the 1980's and can be easily manufactured, for example, by varying monomer chain length without changing the quaternization moiety. For example, the methyl-methyl amine could be methyl-ethyl amine or ethyl-ethyl amine, etc. Also, while not as easily accomplished, the chain length within the allylic moiety can be altered as well. Examples of altering the ammonium monomer chain length alone include:

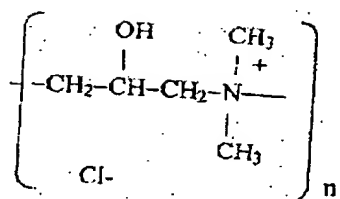


6. Epi-DMA is and has been commonly manufactured by the reaction of epichlorohydrin with a methyl-methyl amine. Variations on this theme have been known by those of ordinary skill since the 1980's and can be easily manufactured, for example, by varying monomer chain length without changing the quaternization moiety. For example, the methyl-methyl amine could be methyl-ethyl amine or ethyl-ethyl amine, etc. Also, the chain length within the epichlorohydrin moiety can be altered as well. Examples of altering the ammonium monomer chain length alone include:

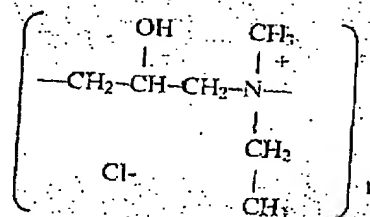
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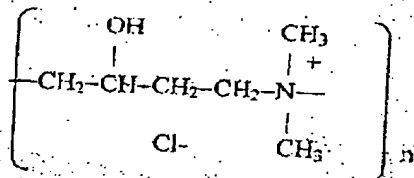
Epi-DMA



Epi-MEA

A common variant was in 1996, and today, is the reaction of epichlorohydrin with ethylene diamine (EDA), i.e. the reaction of epichlorohydrin + EDA + acid.

An example of altering the epichlorohydrin chain length would include:



7. As I investigate the word "variety" as used in "DADMAC variety" and/or "Epi-DMA variety," I find in Webster's Dictionary (1990, relevant pages attached) the word "variety" to be defined as:

- 1: a quality or state of having different forms or types,
- 2: a number or collection of different things esp. of a particular class, and
- 3: any of various groups of plants or animals ranking below a species.

Therefore, to one of ordinary skill in the art, the term "DADMAC variety" would mean and would have meant in 1996 variations or "a quality or state of having different forms or types" or "a number or collection of different things esp. of a particular class" or "any of various groups of plants or animals ranking below a species" of DADMAC. Further, to one of ordinary skill in the art, the term "Epi-DMA variety" would mean variations or "a quality or state of having different forms or types" or "a number or collection of different things esp. of a particular class" or "any of various groups of

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plants or animals ranking below a species" of Epi-DMA. Some examples of those variations and/or variety are depicted tailed above.

8. As I investigate the words "family of compounds" as used within "DADMAC family of compounds" and/or "Epi-DMA family of compounds," I find in Webster's Dictionary (1990, relevant pages attached) the word "family" to be defined as:

- 4: a group of things related by common characteristics, and
- 4a: a closely related series of elements or compounds.

Further, as I investigate the word "compound," I find in Webster's Dictionary (1990, relevant pages attached) (1990, relevant pages attached) the word "compound" to be defined as:

- 1: composed of or resulting from separate elements, and
- 2: involving or used in combination.

Therefore, to one of ordinary skill in the art, the term "DADMAC family" would also mean variations of DADMAC or "a group of things related by common characteristics" or more than one "closely related series of elements or compounds." Further, a very similar communication is made by the term "Epi-DMA family." Some examples of a "DADMAC family" are depicted above; some examples of an "Epi-DMA family" are depicted above.

Therefore, to one of ordinary skill in the art, the term "DADMAC family of compounds" would also mean variations of DADMAC or "a group of things related by common characteristics" which are "composed of or resulting from separate elements," or more than one "closely related series of elements or compounds" which "involve or are used in combination." Further, a very similar communication is made by the term "Epi-DMA family of compounds." Some examples of a "DADMAC family of compounds" are depicted above; some examples of an Epi-DMA family of compounds are depicted above.

9. Based on the above, to one of ordinary skill in the art, the term: "of DADMAC variety" would not be limited to DADMAC alone, "of epi-DMA variety" would not be limited to epi-DMA alone, "DADMAC family" would not be limited to DADMAC alone, "epi-DMA family" would not be limited to epi-DMA alone.

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"DADMAC family of compounds" would not be limited to DADMAC alone, and  
"epi-DMA family of compounds" would not be limited to epi-DMA alone.

10. I hereby declare that all statements made herein are of my own knowledge are true and that all statements made on information and belief are believed to be true; and further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.

Full Name of Declarant:

David Breslin

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Baton Rouge, La.  
70810

Citizenship:

USA

Mailing Address:

Same  
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Date: January 29, 2004

February 20, 2005

  
Signature of Declarant

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